

Application No. 09/928,294

Response to Non-Final Office Action of April 17, 2007

Amendments to the Claims:

The Listing of Claims (pages 5–14) replaces all prior versions of claims in the application.

All prior claims 1–374 have been canceled without disclaimer.

New claims 375–394 have been added to the Listing of Claims to more clearly define the invention.

Claims 375–394 are now pending.

Listing of Claims:

Claims 1-374 (Canceled)

375. (New) A handheld game system comprising:

- (a) a housing of a size and weight that is suitable for handheld use and which contains a handheld electric battery;
- (b) a processor in said housing for executing a first game program to generate first renderable polygon vertex data that represents variable shapes of a simulated 3-dimensional player-controlled object moving in a simulated 3-dimensional game space, wherein said processor is powered by said handheld electric battery in said housing when said game system is being operated independently of external power sources;
- (c) a transparent touch sensitive panel positioned on a discrete display device in said housing, said panel for detecting a variable sequence of locations touched on said panel by a manually operated physical object when said physical object is moving in contact with the touch sensitive surface of said panel between said locations;
- (d) coordinates memory in said housing for storing at least a portion of a sequence of 2-dimensional coordinates of said touched locations, a corresponding sequence of 3-dimensional spatial coordinates of a portion of said player-controlled object, and a corresponding sequence of 2-dimensional coordinates of display locations on said discrete display device that are different in at least one value than said corresponding 2-dimensional coordinates of touched locations;

- (e) a processor in said housing for converting said sequence of 2-dimensional coordinates of touched locations from said coordinates memory to said sequence of 3-dimensional spatial coordinates for storage into said coordinates memory in said housing;
- (f) a processor in said housing for generating simulated motion of at least a portion of said player-controlled object moving through said sequence of 3-dimensional spatial coordinates in said simulated 3-dimensional game space; and
- (g) a processor in said housing for digitally rendering displayable pixels for display on said discrete display device from at least a portion of said first polygon vertex data that represents at least a portion of said 3-dimensional player-controlled object moving through said sequence of display locations on said discrete display device as specified by said 2-dimensional coordinates in said coordinates memory.

376. (New) The handheld game system of claim 375, wherein said polygon vertex data represents variable shapes of 3-dimensional body parts of said player-controlled object that are joined together with variable joints; and wherein said polygon vertex data represents rotation of at least one of said joints whenever one of said body parts contacts a second simulated object in said simulated 3-dimensional game space.

377. (New) The handheld game system of claim 376, wherein said joints are finger joints that are parts of a simulated hand that grasps said second simulated object in accordance with said touching motion of said manually operated physical object on said touch sensitive panel.
378. (New) The handheld game system of claim 375, further generating data representing a player-controlled multi-fingered hand for display on said discrete display device at 2-dimensional locations corresponding to said locations touched on said touch sensitive panel by said manually operated physical object.
379. (New) The handheld game system of claim 375, wherein said simulated player-controlled object is a grasping hand that grasps a non-player object in said 3-dimensional game space; and wherein said program activates said non-player object as a second player-controlled object that moves together with said hand on said discrete display device in response to manual operation of said touch sensitive panel.
380. (New) The handheld game system of claim 375, wherein said player-controlled object is rendered from a different viewpoint in said game space than the viewpoint from which said player-controlled object is displayed on said discrete display device.

381. (New) The handheld game system of claim 375, wherein said digitally rendered pixels represent a partial view of said simulated game space and one of said processors changes said view to move in a variable direction through said game space depending on the direction of said sequence of locations touched on said panel.
382. (New) The handheld game system of claim 375, further comprising a second input control device in said housing for coordinated operation with said touch sensitive panel to control variable motion of said player-controlled object in said game space in 3-dimensions.
383. (New) The handheld game system of claim 375, further comprising a program storage medium in said housing into which at least a portion of said first game program is downloaded through a data transmission link from a separately housed system, said first game program being executed by at least one of said processors after said program portion is downloaded to said program storage medium.

384. (New) The handheld game system of claim 375, wherein one of said processors converts said sequence of 2-dimensional touch sensitive panel coordinates to 3-dimensional spatial coordinates that specify successive locations of said player-controlled object in said simulated 3-dimensional game space beginning at a 3-dimensional location where said player-controlled object was located when the first of said sequence of coordinates was generated.
385. (New) The handheld game system of claim 375, wherein said player-controlled object is generated as an animal that has body parts that are joined together with movable joints that move in response to operation of said touch sensitive panel.
386. (New) The handheld game system of claim 375, wherein said discrete display device is a liquid crystal display (LCD) device.
387. (New) The handheld game system of claim 375, wherein said processors are the same processor.
388. (New) The handheld game system of claim 375, wherein one of said processors is a graphics coprocessor.

388. (New) A computer readable data storage medium storing a first game program for execution in a handheld game system that has a housing suitable for handheld use, a discrete display device in said housing on which device is positioned a transparent touch sensitive panel for detecting a variable sequence of locations touched on said panel by a manually operated physical object when said physical object is moving in continuous contact with the touch sensitive surface of said panel at said locations, coordinates memory in said housing for storing at least a portion of a sequence of 2-dimensional coordinates of said touched locations, a corresponding sequence of 3-dimensional spatial coordinates of a portion of a simulated 3-dimensional player-controlled object in a simulated 3-dimensional game space, and a corresponding sequence of 2-dimensional coordinates of display locations on said discrete display device that are different in at least one value than said corresponding 2-dimensional coordinates of said touched locations, and a processor in said housing for executing said first game program and powered by a handheld electric battery in said housing when said game system is operated independently of external power sources, said data storage medium storing said first game program of instructions comprising:

- (a) program instructions that cause said processor to generate first renderable polygon vertex data that represents variable shapes of said simulated 3-dimensional player-controlled object moving in said simulated 3-dimensional game space;

- (b) program instructions that cause said processor to convert said 2-dimensional coordinates of touched locations to said 3-dimensional spatial coordinates;
- (c) program instructions that cause said processor to generate simulated motion of at least a portion of said player-controlled object moving through said sequence of 3-dimensional spatial coordinates in said simulated 3-dimensional game space;
- (d) program instructions that cause said processor to digitally render displayable pixels from at least a portion of said first polygon vertex data that represents at least a portion of said 3-dimensional player-controlled object moving through said sequence of 2-dimensional coordinates of display locations on said discrete display device; and
- (e) program instructions that cause said discrete display device to display said digitally rendered pixels.

389. (New) The data storage medium of claim 388, further comprising program instructions that cause said processor to generate polygon vertex data that represents variable shapes of body parts of said simulated 3-dimensional object that are joined together with joints; and program instructions that cause said processor to generate motion of said body parts around at least one of said joints in said 3-dimensional space, in response to operation of said touch sensitive panel.

390. (New) The data storage medium of claim 388, further comprising program instructions that cause said processor to generate polygon vertex data that represents variable shapes of body parts of said simulated 3-dimensional object that are joined together with joints; and program instructions that cause said processor to change the joint angle of at least one of said joints in said 3-dimensional space, in response to operation of said touch sensitive panel.
391. (New) The data storage medium of claim 388, further comprising program instructions that cause said processor to generate said player-controlled object as an animal that has body parts that are joined together with movable joints that move in response to operation of said touch sensitive panel.
392. (New) The data storage medium of claim 388, wherein said processor comprises a processor and coprocessor.
393. (New) The data storage medium of claim 388, wherein said data storage medium is from the group consisting of: semiconductor memory, optically coded disk, data storage disk, wireless data transmission device, and data transmission system.

394. (New) A computer readable data storage medium storing a first game program for execution in a handheld game system that has a housing suitable for handheld use, a discrete display device in said housing on which device is positioned a transparent touch sensitive panel for detecting a variable sequence of locations touched on said panel by a manually operated physical object when said physical object is moving in contact with the touch sensitive surface of said panel between said locations, coordinates memory in said housing for storing at least a portion of a sequence of 2-dimensional coordinates of said touched locations, a corresponding sequence of 3-dimensional spatial coordinates of a portion of a simulated 3-dimensional player-controlled object in a simulated 3-dimensional game space, and a corresponding sequence of 2-dimensional coordinates of display locations on said discrete display device that are different in at least one value than said corresponding 2-dimensional coordinates of said touched locations, and a processor in said housing for executing said first game program and powered by a handheld electric battery in said housing when said game system is operated independently of external power sources, said data storage medium storing said first game program of instructions comprising:

- (a) program instructions that cause said processor to generate first renderable polygon vertex data that represents variable shapes of said simulated 3-dimensional player-controlled object moving in said simulated 3-dimensional game space;

- (b) program instructions that cause said processor to convert said 2-dimensional coordinates of touched locations to said 3-dimensional spatial coordinates;
- (c) program instructions that cause said processor to generate simulated motion of at least a portion of said player-controlled object moving through said sequence of 3-dimensional spatial coordinates in said simulated 3-dimensional game space;
- (d) program instructions that cause said processor to digitally render displayable pixels from at least a portion of said first polygon vertex data that represents at least a portion of said 3-dimensional player-controlled object moving through said sequence of 2-dimensional coordinates of display locations on said discrete display device; and
- (e) program instructions that cause said discrete display device to display said digitally rendered pixels.